ELSEVIER

Volume 259, Numbers 1–2, 22 August 1997

Journal of ALLOYS AND COMPOUNDS

Contents

Letters

Magnetovolume effect of Co_2B L1
T. Kanomata, Y. Ise, N. Kumagai, A. Haga (Tagajo, Japan), K. Kamishima, T. Goto (Tokyo, Japan), H.M. Kimura, H. Yoshida, T. Kaneko, A. Inoue (Sendai, Japan)

Preparation of Mg_2Ni base alloy by the combination of mechanical alloying and heat treatment at low temperature L5
L. Aymard (Amiens, France), M. Ichitsubo, K. Uchida, E. Sekreta, F. Ikazaki (Ibaraki, Japan)

The γ-$Nb_4N_{3\pm x} \rightarrow \delta$-$NbN_{1-x}$ phase transition L9
R. Berger, W. Lengauer, P. Ettmayer (Vienna, Austria)

$ZrO_{2-x}S_x$: Stabilization of cubic ZrO_2 by a partial exchange of oxygen by sulfur L14
J.R. Anderson, H. Kleinke, H.F. Franzen (Ames, IA, USA)

Physics

Effect of heat treatment on structure and magnetic properties of the Fe–N and Fe–Ti–N alloy films 1
D.-L. Peng, K. Sumiyama, K. Suzuki (Sendai, Japan)

Magnetic properties of the $Y_3(Fe,Mo)_{29}N_x$ nitride 7
H. Pan (Beijing and Hangzhou, P.R. China), C. Chen, S. Li (Hangzhou, P.R. China), F. Yang, X. Han (Beijing, P.R. China), Q. Wang (Hangzhou, P.R. China)

Neutron diffraction study of the $TbFeSi_2$-type $NdMnCu_{0.5}Ge_{1.5-x}Si_x$ ($0 \le x \le 1.5$) solid solution 11
M.N. Norlidah, G. Venturini, B. Malaman (Vandoeuvre les Nancy, France), E. Ressouche (Grenoble, France)

Influence of hydriding on the magnetic properties of $Gd_3Ni_6Al_2$ 24
S. Pechev, B. Chevalier (Pessac, France), M. Khrussanova, M. Terzieva (Sofia, Bulgaria), J.L. Bobet, B. Darriet (Pessac, France), P. Peshev (Sofia, Bulgaria)

Ground state in $CeAl_3$: a $Ce(Al_{1-x}M_x)_3$ study with M = Ga, Si, Ge and Sn 29
S. Corsépius, M. Lenkewitz, G.R. Stewart (Augsburg, Germany)

Magnetic properties of RPdGe (R = Ce, Pr and Tb) compounds 36
A. Szytuła, M. Kolenda (Kraków, Poland), E. Ressouche (Grenoble, France), A. Zygmunt (Wrocław, Poland)

Magnetic properties of $Pr_2Co_{17-x}Al_x$ and $Y_2Co_{17-x}Al_x$ 42
D. Zhang (Shenyang, P.R. China and Amsterdam, The Netherlands), C.H. de Groot (Eindhoven, The Netherlands), E. Brück, F.R. de Boer, K.H.J. Buschow (Amsterdam, The Netherlands)

XPS, XES, and XAS studies of the electronic structure of substoichiometric cubic TaC_x and hexagonal Ta_2C_y carbides 47
O.Yu. Khyzhun (Kiev, Ukraine)

Magnetic and electrical resistivity study of $Tm_3Co_{11}B_4$ compound 59
A. Kowalczyk, L. Smardz (Poznań, Poland)

Magnetic properties of the ytterbium non-stoichiometric trihydride phase 62
W. Iwasieczko, M. Drulis, H. Drulis (Wrocław, Poland)

Magnetic properties of $R_2Co_{17-x}Ga_x$ compounds (R = Sm and Gd) 65
D. Zhang (Shenyang, P.R. China and Amsterdam, The Netherlands), D.P. Middleton (Eindhoven, The Netherlands), E. Brück, F.R. de Boer (Amsterdam, The Netherlands), Z.D. Zhang (Shenyang, P.R. China), K.H.J. Buschow (Amsterdam, The Netherlands)

Elsevier Science S.A.

Optical characterization of $BaLaALO_4$:Nd 69
W. Ryba-Romanowski, S. Gołąb, W.A. Pisarski, G. Dominiak-Dzik (Wrocław, Poland), A. Pajączkowska (Warsaw, Poland)

Hydrogen and deuterium diffusion in titanium dihydrides/dideuterides 74
U. Kaess, G. Majer, M. Stoll (Stuttgart, Germany), D.T. Peterson, R.G. Barnes (Ames, IA, USA)

Chemistry

A new description of Samson's Cd_3Cu_4 and a model of icosahedral i-CdCu 83
G. Kreiner, M. Schäpers (Dortmund, Germany)

Phase diagram of the zirconium–tellurium system 115
R. de Boer, E.H.P. Cordfunke (Petten, The Netherlands)

The ethane-like $[Ge_2S_6]^{6-}$ and $[Si_2Se_6]^{6-}$ ligands bound to main-group metals in $Na_8Pb_2[Ge_2S_6]_2$, $Na_8Sn_2[Ge_2S_6]_2$, and $Na_8Pb_2[Si_2Se_6]_2$ 122
G.A. Marking, M.G. Kanatzidis (East Lansing, MI, USA)

Electrochemical evaluation of thermodynamic parameters for dissolved hydrogen in stoichiometric and nonstoichiometric hydrogen storage alloys 129
C. Iwakura, M. Miyamoto, H. Inoue, M. Matsuoka, Y. Fukumoto (Osaka, Japan)

Effect of stoichiometric ratio on discharge efficiency of hydrogen storage alloy electrodes 132
C. Iwakura, M. Miyamoto, H. Inoue, M. Matsuoka, Y. Fukumoto (Osaka, Japan)

Characterization of the transport processes in Fe-Cr-Ni stainless steel 135
N. Afify, A. Gaber, M.S. Mostafa, A.A. Hussein (Assiut, Egypt)

Crystal structure and phase relations for Mn_3Sn_2 and non-stoichiometric $Mn_{2-x}Sn$ 140
M. Stange, H. Fjellvåg, S. Furuseth (Oslo, Norway), B.C. Hauback (Kjeller, Norway)

The stabilization of γ-Ce_2S_3 at low temperature by heavy rare earths 145
F. Marrot, A. Mosset, J.-C. Trombe (Toulouse, France), P. Macaudière, P. Maestro (Aubervilliers, France)

Optical absorption study of Rh(III)- and Ir(III)-doped NaCl single crystals ($NaCl:M^{3+}$, $M = Rh^{3+}$, Ir^{3+})—A crystal field analysis 153
B. Gilliams, L. Heerman, C. Görller-Walrand (Heverlee (Leuven), Belgium)

Synthesis and structure of the subnitrides Ba_2GeGaN and $(Ba_xSr_{1-x})_3Ge_2N_2$; $x \approx 0.7$ 158
S.J. Clarke, F.J. DiSalvo (Ithaca, NY, USA)

Crystal structure and vibrational spectra studies of stillwellite compounds $NdBSiO_5$ 163
Y. Shi (Beijing, P.R. China), J.K. Liang (Beijing and Shenyang, P.R. China), H. Zhang, J.L. Yang, W.D. Zhuang, G.H. Rao (Beijing, P.R. China)

New barium niobium sulfides. II. Preparation of $BaNb_{2.85}S_{6.23}$ and $BaNb_{5.33}S_{11.0}$ 170
M. Saeki, Y. Yajima (Ibaraki, Japan)

Heat capacities of $LnCrO_3$ (Ln = rare earth) 176
H. Satoh, S.-i. Koseki, M. Takagi (Toyohashi, Japan), W.Y. Chung (Chucheon, Korea), N. Kamegashira (Toyohashi, Japan)

Compositional and structural characteristics of MgNi alloy prepared by mechanical alloying for use as negative electrodes in nickel–metal hydride batteries 183
S. Nohara, H. Inoue, Y. Fukumoto, C. Iwakura (Osaka, Japan)

Crystal structure of $Tb_{16}Ni_{36}P_{22}$ and isotypic lanthanoid nickel phosphides 186
S.I. Chykhrij, V.S. Babizhets'ky, S.V. Oryshchyn, Yu.B. Kuz'ma, L.G. Aksel'rud (L'viv, Ukraine)

Electronic structure of $Sm_2Fe_{17}X_x$ (X = C or N) calculated by DV-Xα method 191
H. Izumi, K. Machida, G. Adachi (Osaka, Japan)

Preparation of highly porous iridium oxide electrodes by pore initiation with rare earth ions 196
Y. Murakami, T. Nakamura, X.-G. Zhang, Y. Takasu (Ueda, Japan)

Synthesis and characterisation of $HgBa_2Ca_{0.7}Dy_{0.3}Cu_2o_{6+\delta}$ 200
G. Nilsson, I. Bryntse (Stockholm, Sweden)

On the rhombohedral-cubic phase transition of solid solutions ROF–CaF_2 with R = Gd, Tb and Dy 208
J.-H. Müller, T. Petzel, B. Hormann, O. Andresen (Hamburg, Germany)

Varieties of charge transfer and bonding between layers in misfit layer compounds $(MX)_xTX_2$ 212
S.P. Abramov (St. Petersburg, Russia)

Metallurgy

Phase relations and properties of compounds in $TiSe_2$–$IrSe_2$ system 219
M. Shimakawa, K. Hayashi (Okayama, Japan)

First thermodynamic approach of the (Ir + Ga) system 225
P. Anres, M. Gaune-Escard, J.P. Bros (Marseille, France)

Intermetallic compound formed by electrodeposition of indium on antimony 234
V.M. Kozlov, V. Agrigento, D. Bontempi, S. Canegallo, C. Moraitou, A. Toussimi, L.P. Bicelli, G. Serravalle (Milano, Italy)

Structural study of Fe–Si nanostructured materials 241
M. Abdellaoui (Tunis, Tunisia), C. Djega-Mariadassou (Orsay, France), E. Gaffet (Belfort, France)

On new rare-earth compounds LnRhAl 249
H. Schwer, F. Hulliger (Zürich, Switzerland)

Hydrogen absorption studies in $Zr_{0.2}Tb_{0.8}Co_3$ and decrepitation and cyclic stabilities in $Zr_{0.2}Tb_{0.8}Co_3$ and ZrMnFe 254
C. Arun, S. Ramaprabhu (Madras, India)

Materials Science

Study of thermal residual stresses in ceramic matrix composites 260
J.-L. Bobet, J. Lamon (Pessac, France)

Magnetic anisotropy and magnetoelastic properties of $SmFe_{11}Ti$ 265
V.Yu. Bodriakov, T.I. Ivanova, S.A. Nikitin, I.S. Tereshina (Moscow, Russia)

Effect of Ni containing surface phases on the electrode characteristics of $Ti_{1.0}Mn_{1.0}V_{0.5}$ 270
J.-S. Yu, K.-Y. Lee, J.-Y. Lee (Taejon, South Korea)

Structures, properties and responses to heat treatment of melt-spun Cu–Y alloys 276
Y. Li, S.C. Ng, L.K. Tan, D. Lu (Singapore, Singapore)

Author Index of Volume 259 283

Subject Index of Volume 259 285